

# AX/4000 ATM OC-3cSTM-1 Multimode Interface

## **Overview**

This combination port interface and faceplate provides a SONET OC-3c or SDH STM-1 physical connection for AX/4000 Generator, Generator/Analyzer and ATM Network Impairment Emulator test modules.

This interface operates at 155.52 Mbps using a 1310 nm multimode optical format with SC connectors.

## AX/4000 Installation

The port interface plugs directly into mating connectors on the AX/4000 test module. Two screws attach the faceplate to the front of a mainframe or portable chassis. The test module provides power to the port interface.

## **Transmit and Receive Connector**

The port interface has a dual SC connector. The TRANSMIT portion is for optical (LED) output, and the RECEIVE portion is for optical (LED) input.

## **Transmit Clock Source**

The port interface can receive its transmit timing from a built-in crystal oscillator (INT), from the clock recovered from received data (LOOP) or from an external source via the EXT CLOCK IN connector (EXT).

## **External Clock In Connector**

The SMA connector labeled EXT CLOCK IN is for an external 155.52 MHz transmit timing signal.

## **LED Indicators**

The faceplate has eight LED indicators. Refer to the faceplate photo for a description of each LED function.

#### **Software Control**

The AX/4000 Windows<sup>®</sup>-based controller software provides a graphical interface for setting up the port interface, triggering momentary and continuous alarms, and for viewing port statistics. See the other side of this sheet for a list of the user interface functions.

Software functions for controlling this port interface are also available in the AX/4000 C function library. This library allows C programmers to create their own AX/4000 test applications on a variety of platforms.



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## **Hardware Specifications**

#### AX/4000 ATM Test Modules Supported

- 155.52 Mbps Version 2 Generator (P/N 401312)
- 155.52 Mbps Version 2 Generator/Analyzer (P/N 401311)
- 155.52 Mbps Version 2 Generator/Dual Analyzer (P/N 401314)
- mAX Generator (P/N 401401L)
- mAX Generator (P/N 401401H)
- mAX Generator/Analyzer (P/N 401400L)
- mAX Generator/Analyzer (P/N 401400H)
- mAX Generator/Dual Analyzer (P/N 401405L)
- Network Impairment Emulator (uni-direct) (P/N 400314)
- Network Impairment Emulator (bi-direct) (P/N 400315)

Note: For the Generator/Dual Analyzers, two identical interfaces are required.

#### **External Timing Clock Signal Connector**

- Connector type: SMA
- Impedance: 50 ohms
- Frequency: 155.52 MHz
- Duty cycle: 45% 55%
- Input voltage: ECL levels (nominal) low -1.8 V, high -0.8 V

#### **Transmit and Receive Connector**

- Connector type: Dual SC coupler
- Bit rate: 155.52 Mbps
- Coding: NRZ

#### **Transmit Specifications**

- Nominal output power: -16 dBm
- Minimum output power: -19 dBm
- Maximum output power: -14 dBm
- Nominal center wavelength: 1310 nm
- Minimum center wavelength: 1260 nm
- Maximum center wavelength: 1360 nm
- Maximum output spectral width: 75 nm
- Output extinction ratio: >10 dB
- Output core diameter: 62.5/125 m

#### **Receive Specifications**

- Minimum input power: -30 dBm
- Maximum input power: -14 dBm
- Input core diameter: 62.5/125 \_m

## **Software Control Functions**

#### **Setup Parameters**

- Operation Mode
  Normal, line monitor, or diagnostic loopback
- Transmit Clock Source
  - Internal, loop, or external
- Interface Type
  - OC-3c or STM-1
- Automatic Alarm Enables
  - Path Yellow, line FERF, and line or path FEBE
- General Setup Options
  - Section scrambling enable
  - HEC coset enable
  - Cell scrambling enable
  - Pass bad header cells
  - HEC correction enable
- New H1, H2 Pointer Control Setup
  SPE offset, SS, and NDF

#### Indicators and Statistics

- RX Section
  - LOS, OOF, and LOF: Current and History indicators
  - BIP-8: Error Count and Error Rate statistics
- RX Line
  - AIS, FERF and LOP: Current and History indicators
  - BIP-24 and FEBE: Error Count and Error Rate statistics
- RX Path
  - AIS, FERF, and Yellow: Current and History indicators
  - BIP-8 and FEBE: Error Count and Error Rate statistics
- Out of Cell Delineation
  - Current and History indicators

#### **Transmit Alarm and Error Triggers**

- TX Section (Momentary and Continuous)
  - Framing error, LOS, and BIP-8
- TX Line (Momentary and Continuous)
  AIS, FERF, and BIP 24
- HI, H2 Pointer Control (Momentary and Continuous)
  Positive, negative, and new
- TX Path (Momentary and Continuous)
  AIS, Yellow, FERF, and BIP-8

# **Ordering Information**

OC-3cSTM Multimode Interface (P/N 400305)

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